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Reminder of important clinical lesson

Ovarian ectopic pregnancy

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Summary

The authors report the rare case of a 25-year-old female who suffered from an ovarian ectopic pregnancy. She presented at 10 weeks gestation with a 1-day history of vaginal bleeding and lower abdominal discomfort. β-human chorionic gonadotropin concentration was 8538 IU/ml. Ultrasound showed a right adnexal mass 4.0 × 3.8 × 5.5 cm with a 16 mm cystic area suggesting right ovarian ectopic pregnancy. Diagnostic laparoscopy confirmed a ruptured right ovarian ectopic pregnancy with haemoperitoneum. This was excised laparoscopically. She made a good postoperative recovery and was discharged on the second postoperative day. Histology confirmed a ruptured ovarian ectopic pregnancy. Ovarian ectopic pregnancy is a rare condition. There are two features that make this an unusual case; the relatively late gestation at which she presented and her mild presenting features. Unlike tubal ectopic pregnancies, which usually present at earlier gestations, this patient presented relatively late. She also presented with mild symptoms and signs.

BACKGROUND

Ovarian pregnancy is a rare condition and high index of suspicion is needed. Ovarian pregnancy comprises 0.15% of all pregnancies and 1–3% of ectopic gestations.[1]

Clinical diagnosis can be difficult and challenging. If an ovarian pregnancy ruptures, mortality is quite high.

In this case of right ovarian pregnancy, the clinical findings were mild and not characteristic of an ectopic pregnancy. She attended accident and emergency earlier on in the day and was discharged. This case illustrates how an ovarian pregnancy can be easily missed and the patient can even be discharged.

CASE PRESENTATION

A 25-year-old female at 10 weeks gestation (spontaneous conception) in her fourth pregnancy presented to accident and emergency department with vaginal bleeding and lower abdominal discomfort. There was no history of dizzy spells or faintness. There was no history of vomiting, bladder or bowel problems. She had used Implanon as

Figure 1 Ultrasound scan of ecoptic pregnancy.

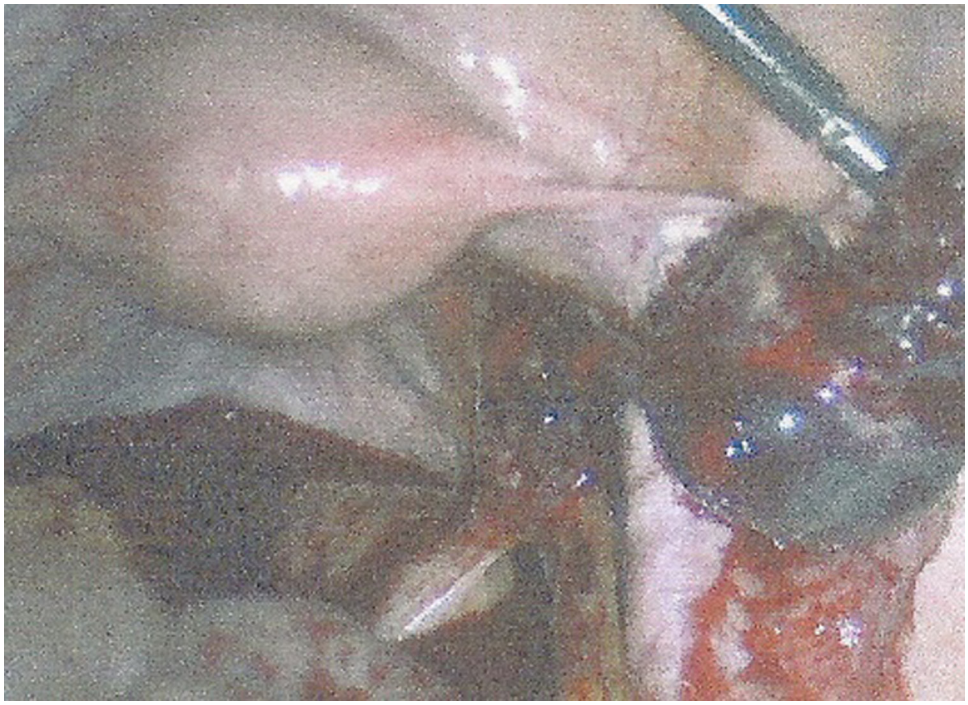

Figure 2 Laparoscopic findings showing a ruptured right ovarian ectopic pregnancy.

her contraception and had come off just a month prior to her last menstrual period. She had irregular periods while on Implanon. She had two previous uneventful pregnancies and vaginal deliveries at term and one previous termination of pregnancy.

There was no significant medical history. There was no history of pelvic infection or any gynaecological procedures apart from surgical termination of pregnancy which was done in 2004 after which she had spontaneous conception and vaginal delivery at term in 2006.

There was no significant family history.

On examination, her observations were all within normal limits. Her abdomen was soft and she had some mild tenderness in her right loin, right iliac fossa and suprapubic areas. On speculum examination, the cervical os was closed and only minimal bleed was noted. On vaginal examination, she had no cervical excitation and no adnexal tenderness. She was explained although ectopic pregnancy is always a possibility but in her case in absence of tenderness threatened spontaneous abortion was most likely diagnosis. She was discharged from accident and emergency with appointment of Early Pregnancy Assessment Unit in 1 week's time for ultrasound scan of pelvis. But this patient presented again in few days to accident and emergency with increasing discomfort in right loin area. She was admitted to the gynaecology ward and had ultrasound scan next day which clearly suggested right ovarian ectopic pregnancy (figure 1).

INVESTIGATIONS

Serum β-human chorionic gonadotropin (β-HCG) concentration was 8538 IU/l. Haemoglobin was 11.3 g/dl on admission, then 9.9 g/dl postoperatively. Microbiology swabs were negative for Chlamydia, Gonorrhoea and Candida. Urine dipstick was negative for nitrites and leucocytes.

Transvaginal ultrasound scan suggested a normal uterus, endometrial thickness of 7 mm, normal left ovary and adnexa. Adjacent to right ovary there was a 4.0 × 3.8 × 5.5 cm mass with 16 mm cystic area within it consistent with ectopic pregnancy (figure 1). Laparoscopic findings showing ruptured ectopic pregnancy (figure 2).

Histology confirmed a ruptured ovarian ectopic pregnancy (figure 3).

DIFFERENTIAL DIAGNOSIS

- Haemorrhagic corpus luteum
- Appendicitis with early pregnancy
- Ovarian tumour secreting β-HCG for example germinoma (including dysgerminoma and seminoma)
- Choriocarcinoma
- Urinary tract infection.

TREATMENT

The patient underwent a diagnostic and therapeutic laparoscopy and the right ovarian ectopic pregnancy was resected laparoscopically with conservation of more than two-thirds of her right ovary (figure 4).

OUTCOME AND FOLLOW-UP

She had an uneventful procedure. Despite the ectopic pregnancy being adherent to right ovary still her right ovary was conserved. She had good postoperative recovery and was discharged home on the second postoperative day.

DISCUSSION

We conducted a Medline search for reports of ovarian ectopic pregnancy and found approximately 100 cases; however, many of them being related to fertility treatment, intrauterine devices or tubal ligation.

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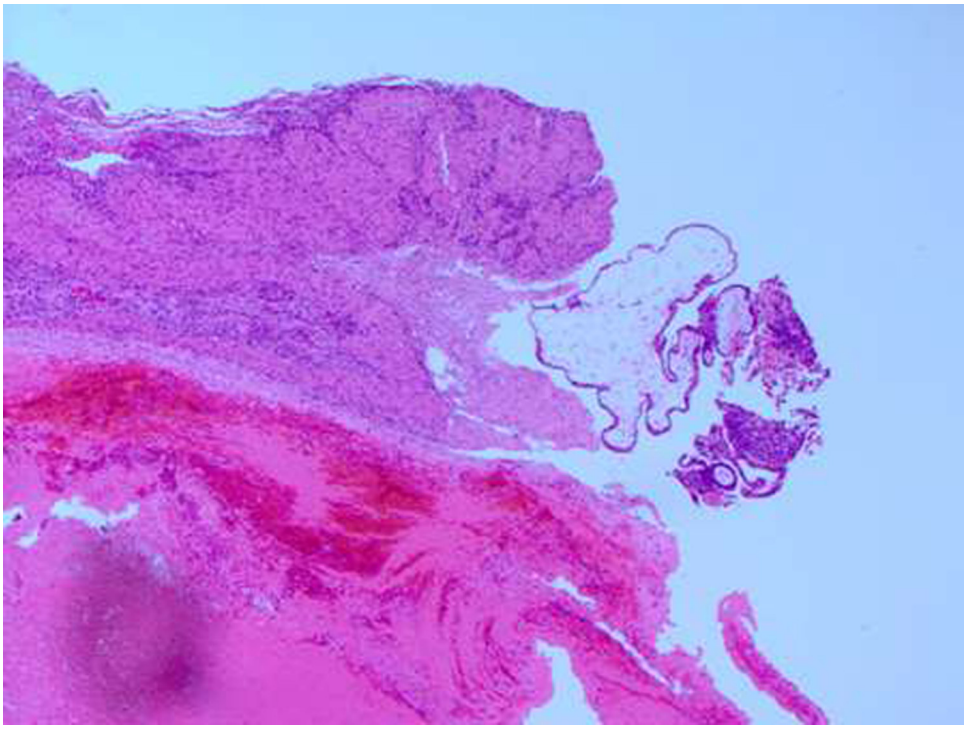

Figure 3 Histology slide of ovarian pregnancy.

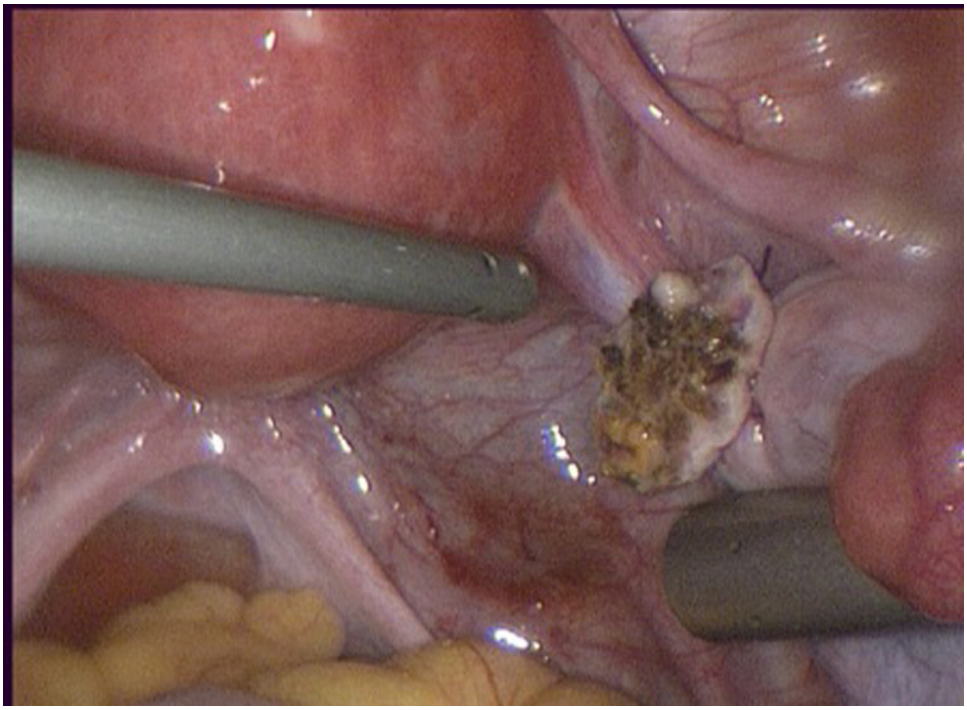

Figure 4 Laparoscopic postresection of ovarian pregnancy.

The incidence of ectopic pregnancies is 1%.[2] Among these ectopic pregnancies, ovarian pregnancy is quite rare, constituting 1–3% of all ectopic pregnancies.[3] It is the most important cause of maternal death in the first trimester accounting for approximately 10% of deaths related to pregnancy.[4]

The aetiology of ovarian pregnancy remains unclear, it occurs as a result of a fertilised ovum getting implanted on the ovarian tissue. Although several factors, such as pelvic inflammatory disease and previous gynaecological surgery, are closely linked to tubal pregnancies but do not seem to be related to ovarian pregnancies.[5 6] Ovarian ectopic pregnancies have been mostly associated with high parity, younger age and people receiving in-vitro fertilisation treatment.[7 9] It has been found that intrauterine device use and ovulation induction are the most common risk factors for ovarian ectopic pregnancy.[8 10 11]

The clinical findings of ectopic pregnancy include secondary amenorrhoea, abdominal pain and vaginal haemorrhage, with a clinical picture of varying acuteness.[12] It has been reported that the presentation of ovarian ectopic pregnancies can be delayed.[5 13]

This case meets all the diagnostic criteria as described by Spiegelberg:

1. An intact fallopian tube on the affected side
2. A gestational sac must occupy the normal position of the ovary
3. The ovary and gestational sac must be connected by the utero-ovarian ligament to the uterus
4. Histological confirmation of ovarian tissue in the gestational sac wall.[10]

Investigation is mainly with transvaginal ultrasound scan which can detect ovarian ectopic pregnancy. However, ultrasound scan may not be able to diagnose all cases of ovarian pregnancy due to anatomical location.

Laparoscopy is the gold standard for both investigation and therapeutic intervention.[1] It is the treatment of choice for haemodynamically stable patients.[1] The aim should be to conserve the ovary on which the ectopic pregnancy is attached to by doing an ovarian cystectomy or wedge resection.[12] Patients who are haemodynamically unstable would need an urgent laparotomy.[12] Methotrexate is a good alternative to laparoscopic management in unruptured ovarian ectopic pregnancy; however, it's toxicity has to be taken into account.[14]

Learning points

- Ovarian ectopic pregnancy can present with mild pain and tenderness and very subtle clinical findings and can therefore be easily missed and even discharged, posing a big diagnostic challenge.
- One should have a high index of suspicion of ovarian ectopic pregnancies even when the patient has no risk factors.
- Ovarian ectopic pregnancy can have a delayed presentation compared to tubal ectopic pregnancies.
- In the case of an ovarian ectopic pregnancy, the ovary can be conserved in many cases.

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